

SHAKHUNYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof., retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P., retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn. nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., retsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent; IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN, M.A., retsenzent; POPOV, V.V., retsenzent; POPOV, S.N., retsenzent; SEREBRENNIKOV, V.V., retsenzent; SHAFRANOVSKIY, A.K., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F., kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, retsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P., kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG, Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshchenia, 1961. 615 p.  
(MIRA 14:12)

1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inzhenerov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov, Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zolotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N., Serebrennikov, Shafranovskiy, Novitskiy). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva (for Viktorov, Vysotskiy, Saatchyan, Yakovleva, Titov)

(Railroads—Track)

(Railroad engineering)

TITOV, V. P. Cand Tech Sci -- (diss) "Study of the deformations of slopes of ~~the~~ railroad cuttings in connection with the seasonal freezing and thawing of ~~soil~~." Mos, 1959. 21 pp with <sup>2d</sup> diagrams (MSS USSR. Mos Order of Lenin and Order of Labor Red Banner Inst of Engineers of Railroad Transport im I. V. Stalin), 150 copies (KL, 47-59, 115)

TITOV, V.P.

Work practices of veterinary specialists of Yefremov District,  
Tula Province. Veterinariia 35 no.5:28-30 MY '58. (MIRA 12:1)

1. Starshiy vetvrach pavil'ona "Veterinariya" na Vsesoyuznoy sel'-  
skokhozyaystvennoy vystavke, 1958 g.  
(Yefremov District--Veterinary medicine)

TITOV, V.P., inzh.

Deformations in ditch slopes caused by soil freezing and thawing.

Transp.stroi. 9 no.1:46-49 Ja '59. (MIRA 12:2)

(Ditches)

(Soil mechanics)

TITOV, V.P.

Automatic line for machining aluminum ingots. Biul.tekh.-ekon.inform.  
no.2:18-19 '59. (MIRA 12:3)  
(Machine-shop practice)

TIT  
SATAROV, V.A., inzhener; TITOV, V.P.; FILIPPOV, M.N., inzhener

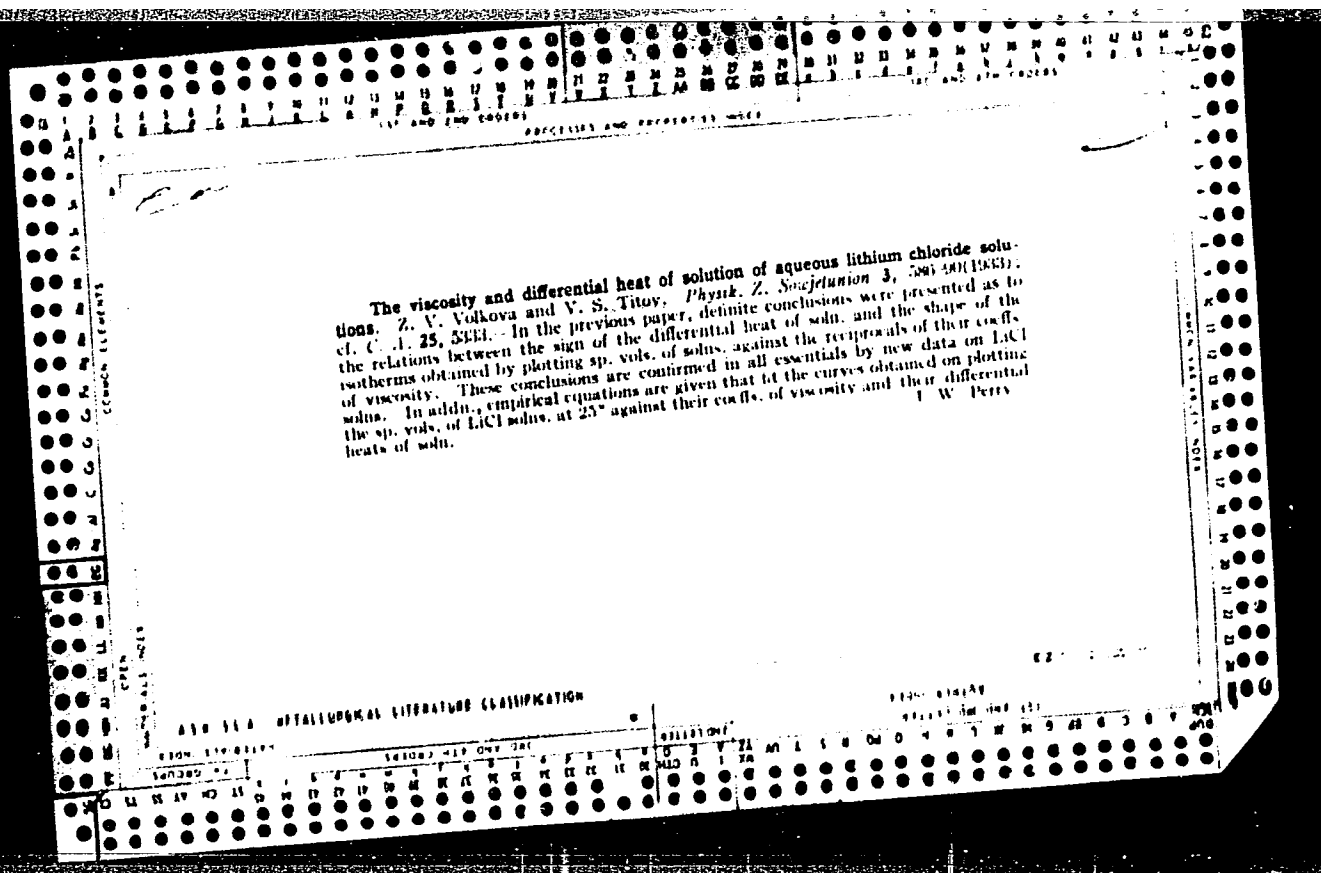
Electric power transmission Kuybyshev-Moscow. Nauka i zhizn'  
22 no.8:7-9 Ag'55. (MIRA 8:10)  
(Kuybyshev Hydroelectric Power Station) (Electric power  
distribution)

TITOV, V.P., inzh.

Movable derricks and stationary platforms for checking and repairing cranes. Bezop.truda v prom. 6 no.4:19-21 Ap '62.

(MIRA 15:5)

(Cranes, derricks, etc.—Maintenance and repair)





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Titov, V.N.

PHASE I BOOK EXPLOITATION

SOV/2205

Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy

Izmereniye vremeni; sbornik (Measurement of Time; Collection of Articles)  
Moscow, Standartgiz, 1958. 115 p. (Series: Its: Trudy, /vyp./ 1)  
Errata slip inserted. 2,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Resp. Ed. of this vol: A.I. Konstantinov; Editorial Board: G.D. Burdun,  
A.L. Dukler, V.I. Yermakov (Deputy Chairman), M.K. Zhokhovskiy,  
L.M. Zaks, A.I. Konstantinov, V.F. Lubentsov (Chairman), M.P.  
Orlova, L.M. Pyatigorskiy, I.G. Rusakov, N.A. Sorokin (Resp. Secretary),  
V.N. Titov; Ed. of Publishing House: S.M. Davydova; Tech. Ed.:  
M.A. Kondrat'yeva.

PURPOSE: This book is intended for astronomers, geodesists, and other scientific personnel interested in the precise determination of time.

COVERAGE: This is the first of a series of periodicals to be published by the  
Card 1/4

Measurement of Time (Cont.)

SOV/2205

All-Union Scientific Research Institute of Physical-Technical and Radio-Technical Measurements. The present volume is concerned with the measurement of time and represents some of the work of the Central Scientific Research Bureau of the Unified Time Service during the years 1947-1951. References accompany each article.

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The article covers the development of the State Time Service for the past ten years. The development is described in relation to the corresponding requirements of science and industry.	
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This article is devoted to the study of clock rates. Comparisons are made of the views and methods of Gauss, Struve, and Preypich.	
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This article describes the technique of computing standard time by differential method. This method was developed for practical use in the Time Service by N. Kh. Preypich.	

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Measurements of Time (Cont.)

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- Titov, V.N. The Relation Between the Mean Square Variation of the k-Diurnal Rate  
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- Fedochenko, F.M. The Isochronization of Pendulum Oscillations of Pendulum  
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This article deals with investigations of methods to increase the  
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- Tupitsyn, O.V. Investigation of the Causes of the Systematic Acceleration  
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- Vlasov, B.I. The Random Components of the Movement of Pulkova (Observatory)  
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This article discusses the stability of targets used by the Pulkova  
Observatory for azimuth determination over a long period of time.
- Pruss, K.V. The Photo Chronoscope - A Device for the Precise Registration  
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Measurements of Time (Cont.)

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A complete description of the design and principles of operation of photo chronoscope is given. The description is well illustrated with diagrams and photographs.

Konstantinov, A.I. and A.I. Solov'yev. Basic Determination of the Longitude of the Astronomic Station in Irkutsk During 1947-1948

72

This article describes the program used in the precise determination of the difference in longitude Moscow-Irkutsk. This work served to give the Irkutsk Time Service a precise longitude value and to establish a base for determining personal equations of astronomers.

Dolgov, P.N. The Work of the Time Service of the Soviet Union During 1948, 1949, and 1950

103

This article evaluates the results of the time services of the USSR for the years cited based on the analysis of the monthly bulletins of moments of time signals and moments of standard time.

AVAILABLE: Library of Congress (QB 213.V9)

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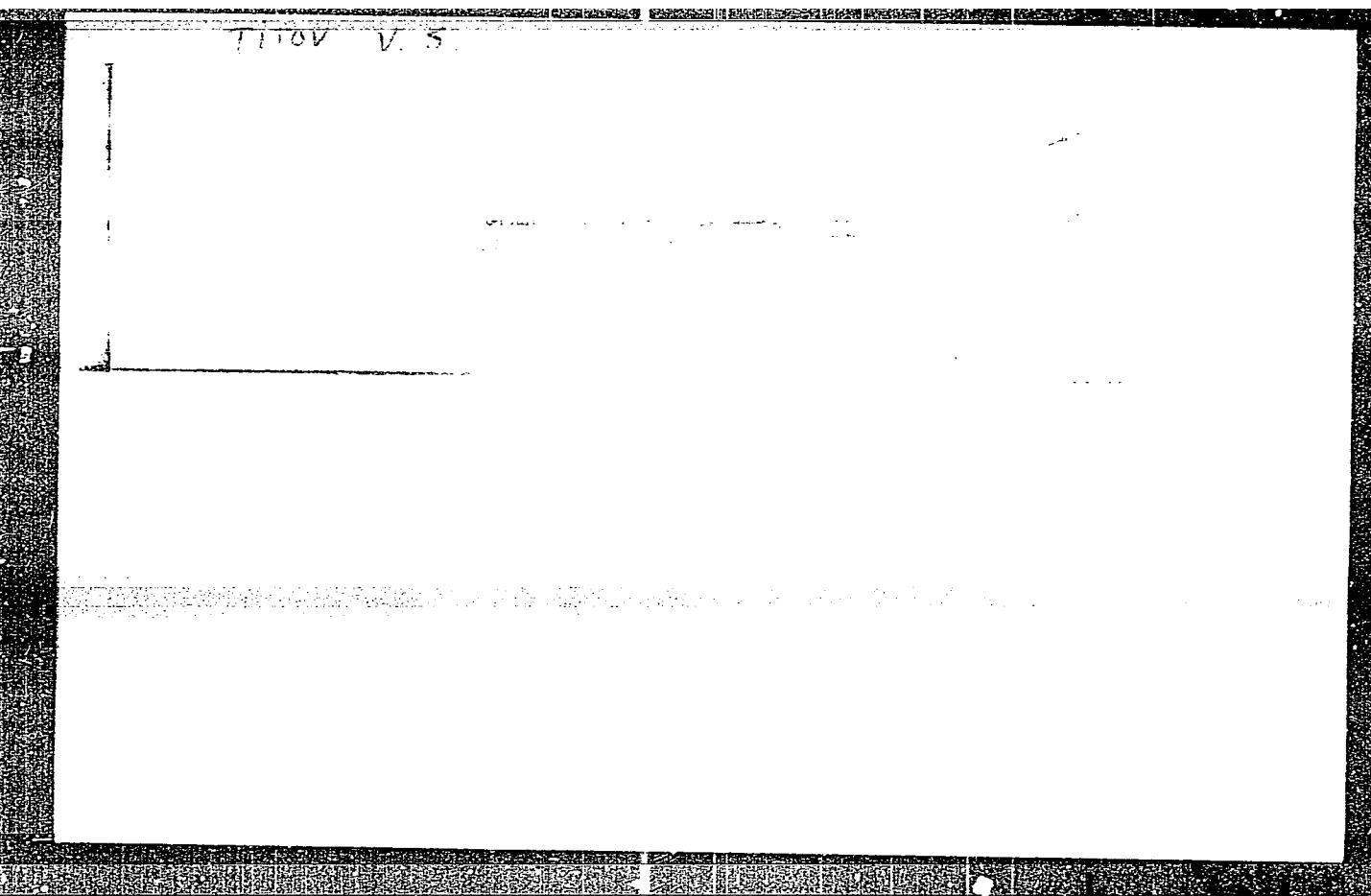
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TITOV, V.S.

Ionite membranes and prospects for their use in hydrometallurgy.  
Biol. TSIIN tsvet. met. no.4:29-30 '58. (MIRA 11:5)  
(Ion exchange) (Hydrometallurgy)

AUTHORS: Pashkov, A. B., Titov, V. S. SOV/64-58-5-3/21

TITLE: The Basic Properties of Some Soviet Ionites (Osnovnyye kharakteristiki nekotorykh sovetskikh ionitov)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 5, pp. 270 - 276 (USSR)

ABSTRACT: In the present paper the authors describe in the form of a summary some industrial and experimental types of Soviet ionites, viz. those prepared at the Scientific Research Institute for Plastics as well as at the Moscow Chemical and Technological Institute imeni D.I.Mendeleev (Moskovskiy khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva) (I.P.Losev, Ye. B. Trost'yanskaya, A. S.Tevlina, A.B.Davankov, V.M.Laufer), at the All-Union Institute for Heat Engineering (Vsesoyuznyy teplotekhnicheskiy institut) (F.G.Prokhorov, K.A.Yankovskiy et al), at the State Institute for Applied Chemistry (Gosudarstvennyy institut prikladnoy khimii) (T.L.Khmelnitskaya, S.A.Marandzhev), and at the Institute for High Molecular Compounds of the AS, USSR (Institut vysokomolekulyarnykh soyedineniy AN SSSR) (A.A.Vansheydt, A.A.Vasil'yev et al). The following types of highly acid cationites are mentioned and described. Sulfoarbon represents

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The Basic Properties of Some Soviet Ionites

SOV/64-58-5-3/21

a polyfunctional cationite with the active groups  $-SO_3H$  and apparently also contains  $COOH-$  and  $OH$  groups; the quality of the ionic exchange depends to a high degree on the particular nature of the carbon source, as the sulfocarbon is obtained by the sulfonation of ground mineral coal. The bifunctional cationite  $Ku-1$  (earlier termed espatite-1) is also highly acidous, has  $-SO_3H$  and  $-OH$  groups, and is obtained by a polycondensation of the paraphenolsulfo acid with formaldehyde in acid medium. It is produced according to TK MKhP 2115-49.  $Ku-2$  represents a monofunctional cationite of the highly acidic type with the active group  $-SO_3H$  and is obtained by treating a styrene copolymer previously swollen, with divinyl benzene, with chlorosulfonic acid and then saponifying the sulfo chloride product. According to TK MKhPM-661-55 it is produced in two types which differ by the degree of swelling. The ionic exchangers  $SBS$  and  $SBSR$  are monofunctional and are of the highly acid type with the active  $HO_2S$  group. The former is produced in three modifications which differ in sulfur content; it is used in the production of antibiotics. The following weakly acidic cationites are mentioned:  $KB-4$  and  $KB-4P-2$  represent monofunctional carboxyl cationites with the active  $COCH$ -group;

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The Basic Properties of Some Soviet Ionites


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they are obtained by the granular copolymerization of methyl methacrylate with divinyl benzene in 1-4% solution of polyvinyl alcohol and a subsequent alcoholic saponification of the ester groups under pressure. They are produced according to VTU MKhP M-576-56. The bifunctional cationit KFu is -COOH and -OH groups as active groups and is, among others, used in the production of antibiotics. SG -1 is a monofunctional cationite with -COOH groups and belongs to the highly porous ionic exchangers. It is produced according to TU BU-129-55. The following types of anionites are mentioned and discussed: AH-1 (previously termed espatite-TM) as polyfunctional, weakly basic anionite with the secondary and tertiary nitrogen groups =NH and =N; it is obtained by a polycondensation of melamine with formaldehyde in acid medium. It is produced according to TU MKhP 2116-49 also represent a polyfunctional weakly basic anionite with tertiary and secondary nitrogen groups =N and =NH; it is obtained by polycondensation of methylol derivatives of phenol with polyethylene polyamines and formaldehyde. It is produced in the chloride form according to VTU MKhP 4289-54 and recently as AH-2FC in the form of spherical granulates. The polyfunctional weakly basic anionit EDE -10P, also has highly

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The Basic Properties of Some Soviet Ionites

SOV/64-58-5-3/21

basic properties and has secondary, tertiary and quaternary amino groups. It is produced by the polycondensation from polyethylene polyamines with epichlorohydrine and is obtained according to VTU MKhP YeU-58-54 in the chloride form. AB-16 is polyfunctional, highly basic and contains secondary, tertiary and quaternary amino groups  $=NH$ ,  $\equiv N$  and  $\pm N$  . It is produced according to VTU M-746-57. The anionites H-O and MMF -1 are polyfunctional, strongly basic to a certain degree, contain  $=NH$  and  $\equiv N$  groups, and are obtained by the polycondensation of urea, guanidine and formaldehyde. The VODGYeO Institute also synthesized a number of other anionites with selective properties. Finally, the authors describe ionite membranes which have recently been produced in the two above mentioned institutes. There are 7 tables and 44 references, 11 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass  
(Scientific Research Institute for Plastics)

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The Basic Properties of Some Soviet Ionites

SOV/64-58-5-3/21

1. Ions--Sources
2. Ions--Properties
3. Ion exchange
4. Exchange reactions

Card 5/5

AUTHOR: Titov, V.S., Scientific Research Institute of Plastics SOV-25-58-7-13/56  
 TITLE: Ionites (Ionity)  
 PERIODICAL: Nauka i zhizn', 1958, Nr 7, pp 25-29 (USSR)  
 ABSTRACT: Lately, highly molecular substances - ionites (ion exchange resins) - have been applied in industry, medicine and scientific research. Ionite diaphragms are used to transform seawater into fresh water. In 1955, Docent A.B. Davakov of the Moskovskiy khimiko-tekhnologicheskii institut imeni D.I. Mendeleyeva (the Moscow Chemical Technological Institute imeni D.I. Mendeleev) demonstrated pieces of gold procured from water by means of a filter with a nozzle containing ion exchange resins. In medicine, Professor A.A. Bagdasarov discovered that blood, if passed through special ion exchange resins, is freed from calcium salt and can be preserved for a long period of time. The USSR has produced a large assortment of ion exchange resins, such as: the polystyrene sulfocationites KU-2 and SDV-3; the amino-anionites AV-15, AV-17, AV-18; the cationites KB-4, KND, KEG; the phenol-formaldehyde cationites KU-1 (Espatit-1) and LCP and the anionites

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Ionites

SOV-85-58-7-13/56

N-O, MNG and AN-1. Credit belongs to Professor I.P. Losev from the Moscow Chemical Technological Institute for having developed the Soviet ion exchange materials. In the near future Soviet medicine will cure diseases such as stomach ulcer, gastritis, myotonia (muscular spasms) etc. b. applying ionites. There are 2 flow charts.

ASSOCIATION: Nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute of Plastics)

1. Ion exchange resins--Applications

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15(8)

CCV/47-59-2-3/31

AUTHOR: Titov, V.S.

TITLE: Physical Methods of Reprocessing Plastics Materials (Fizicheskiye metody pererabotki plastmass)

PERIODICAL: Fizika v shkole, 1959, Nr 2, pp 9-15 (USSR)

ABSTRACT: The Plenary Session of the TsK KPSS of May 1958 set the task to accelerate the development of the plastics industry. The 8-fold increase in production of plastics materials and synthetic resin by the end of 1965 will require the erection of new installations, the development and introduction of new polymers, highly-productive equipment and modernization of manufacturing methods. Since the various methods of working-up plastics materials into finished products are based on the properties of the material, the author lists these properties thus facilitating the understanding of the physical and chemical processes which take place when the material is reprocessed. The author then sets forth the most important of the many methods of working up plastics materials into finished products, beginning with the stamping method applied for making articles of laminated and thermoplastic sheets.

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Physical Methods of Reprocessing Plastics Materials

SOV/47-59-2-5/31

Two drawings show the press-mould for flexible sheets of plastics, and a vacuum form. The next methods explained are those of blowing by steam or air, immersion, casting, compression moulding, injection moulding and other extrusion methods. The author lists a number of sheet and film plastics which have found wide application, and briefly outlines the method of obtaining films and spinning fibres. In conclusion he states in which fields of national economy plastics find wide application. There are 7 diagrams and 2 photos.

ASSOCIATION: Institut plastmass, Moskva (Institute of Plastics, Moscow)

Card 2/2

5(1)

SOV/63-4-1-26/31

AUTHOR: Titov, V.S.

TITLE: On Some Properties of Ionite Membranes Depending on the Principal Qualitative Characteristics of Ion-Exchange Resins (O nekotorykh svoystvakh ionitovykh membran v zavisimosti ot osnovnykh kachestvennykh kharakteristik ionoobmennyykh smol)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 1, pp 137-138 (USSR)

ABSTRACT: The dependence of ionite membranes on the nature and the principal qualitative characteristics of cation-exchange resins was studied on membranes with a ratio of 65 : 35 between the ionite and the binding material using the ionites KU-1, KU-2, KB-4 and experimental types. It has been shown that the electric conductivity and selectivity of the membranes may be controlled by changing the swelling of the ionites. It is recommended to choose sulfo- or sulfocarboxyl cationites with a maximum capacity and swelling of 2.7 - 3.7 ml/g. The best electrochemical and mechanical properties have membranes on the base of the cationites KU-4 and KUT-1.

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SOV/63-4-1-28/31

On Some Properties of Ionite Membranes Depending on the Principal Qualitative Characteristics of Ion-Exchange Resins

There are 3 graphs, 1 table and 6 references, 5 of which are Soviet and 1 English.

ASSOCIATION: Nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute of Plastics)

SUBMITTED: June 18, 1958

Card 2/2

TITOV, Vladimir Semenovich; BERENSON, Yu.E., red.; MARAKASOVA, L.P.,  
tekhn.red.

[Ion exchangers] Ionity. Moskva, Izd-vo "Sovetskaya Rossiya,"  
1960. 51 p. (MIRA 13:5)  
(Ion exchange)

TITOV, V. S.

PHASE I BOOK EXPLOITATION

SOV/4183

Saldadze, Kirill Maksimovich, Arkadiy Borisovich Pashkov, and Vladimir Semenovich  
Titov

Ionoobmennyye vysokomolekulyarnyye soyedineniya (Ion Exchange Macromolecular  
Compounds) Moscow, Goskhimizdat, 1960. 355 p. Errata slip inserted. 6,500  
copies printed.

Ed. (Title page): Kirill Maksimovich Saldadze; Ed. (Inside book): P.P. Korzhev;  
Tech. Eds.: M.S. Lur'ye and A.A. Speranskaya.

PURPOSE: This book is intended for scientific workers, engineers, and technicians  
concerned with the manufacture and use of ionites. It can be used by students  
and aspirants in chemical technology schools of higher education.

COVERAGE: The book discusses the theory of ion exchange processes, the basic prin-  
ciples of ionite synthesis, and their physicochemical properties, applications,  
and methods of testing ionites. In compiling this book the authors have at-  
tempted to present in systematized and compact form the results of theoretical  
and practical investigations published in the periodical literature in the field  
of ion exchange resins. Considerable attention is given to the properties of  
ion exchange resins, especially to Soviet brands. Problems in the purification  
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Ion Exchange Macromolecular Compounds

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of water and salting-out processes, and in the recovery, purification, and concentration of valuable materials are also discussed. Chapters I, III, and V were written by Candidate of Technical Sciences K.M. Saldadze; Chapters II and IV by Engineers A.B. Pashkov and V.S. Titov; they also compiled the bibliography. The following personalities are mentioned: K.V. Chmutov, Corresponding Member, Academy of Sciences USSR, Professor F.M. Shemyakin, Professor N.N. Tunitskiy, M.I. Garbar, and M.S. Akutin. There is a bibliography of 133 pages consisting of Soviet and Western sources.

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Ion Exchange Macromolecular Compounds

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AVAILABLE: Library of Congress

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10/4/60

TITOV, V.S.

Ionite membranes; uses of ionite membranes in chemical technology. Plast.massy no.1:55-59 '60. (MIRA 13:6)  
(Ion exchange)

TITOV, V. S.

Cand Tech Sci - (diss) "Synthesis and study of the basic properties of ion-exchange membranes and several by-products for the membranes." Moscow, 1961. 25 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Chemical Technology Inst imeni D. I. Mendeleyev); 200 copies; price not given; list of author's works on pp 23-24 (14 entries); (KL, 5-61 sup, 194)

S/064/62/000/012/006/006  
B119/B180

AUTHORS: Titov, V. S., Pashkov, A. B.

TITLE: News in synthesis, production, and application of polymeric ion exchangers

PERIODICAL: Khimicheskaya promyshlennost', no. 12, 1962, 54 - 60

TEXT: The article reviews Western and Soviet research work carried out between 1955 and 1962 on polymeric ion exchangers. All-purpose exchangers, selective exchangers, electron exchange (redox) resins, ion exchange membranes, the theory of ion exchange, methods of investigating the properties, and developments in the technology of ion exchange are discussed. There are 114 references.

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TITOV, V.S.; PASHKOV, A.B.

Recent developments in the synthesis, manufacture and uses  
of ion exchange polymeric materials. Khim.prom. no.12:912-918  
D '62. (MIRA 16:2)

1. Nauchno-issledovatel'skiy institut plastmass.  
(Ion exchange resins)  
(Chemistry, Organic—Synthesis)



TITOV, V. V.

"The Effect of the Shape and Chemical Composition of Certain Foreign Bodies on the Healing of Experimental Soft Tissue Wounds in Horses." Moscow Veterinary Academy of the Min. Higher Education USSR, Moscow, 1955. (Dissertation for the Degree of Candidate in Veterinary Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

AUTHORS: Yur'yev, Yu. K., Sadovaya, N. K.,  
Titov, V. V. SOV/79-28-11-30/55

TITLE: The Chemistry of Selenophene (Khimiya selenofena)  
XIII. Cyano-Ethylation of the Ketones of the Selenophene  
Series (XIII. Tsianetilirovaniye ketonov ryada selenofena)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,  
pp 3036 - 3041 (USSR)

ABSTRACT: In an earlier paper (Ref 1) the authors succeeded  
to amino-methylate the ketones of the selenophene  
series according to Mannich (Mannikh), which led  
to some  $\beta$ -dimethyl-aminoalkyl-(selenienyl-2)-ketones.  
In the present paper they continue the investigation  
of the reactivity of these ketones and attempted to  
carry out their cyano-ethylation. The cyano-ethylation  
of the 2-acyl selenophenes that do not have alkyl  
radicals in the position 3 takes place quantitatively  
on the action of acrylonitrile in the presence of an  
alkyl alcoholate. In this way the following  $\delta$ -ketone  
nitriles of the selenophene series were obtained:  
1',1',1'-tri(cyano-ethyl)-2-aceto-selenophene,

Card 1/3

The Chemistry of Selenophene. XIII. Cyano-Ethylation  
of the Ketones of the Selenophene Series

SOV/79-28-11-30/55

1',1'-di(cyano-ethyl)-2-propioselenophene, and 1'-methyl-1'-cyano-ethyl-2-propioselenophene. The cyano-ethylation of the 3-methyl-2-acyl selenophene does not take place, apparently because of the difficulties in the spatial arrangement. Only in the case of the 3-methyl-2-acetoselenophene a reaction took place, however, with a smaller yield of 3-methyl-1',1',1'-tri(cyano-ethyl)-2-acetoselenophene. In the alkaline hydrolysis of the  $\delta$ -ketonitriles of the selenophene series  $\delta$ -ketonic acids unknown before in this series were obtained: 1',1',1'-tri(carboxy-ethyl)-2-acetoselenophene, 1',1'-di(carboxy-ethyl)-2-propioselenophene, 1-methyl-1'-carboxy-ethyl-2-propioselenophene and 3-methyl-1',1',1'-tri(carboxy-ethyl)-2-acetoselenophene (Scheme 1). The reduction of the 1'-methyl-1'-cyano-ethyl-2-propioselenophene with formic acid according to the method by A.N.Kost and his collaborators (Ref 8) the 3,3-dimethyl-2-(selenienyl)-piperidon-6 was synthesized (Scheme 2). In the synthesis of the

Card 2/3

The Chemistry of Selenophene. XIII. Cyano-Ethylation  
of the Ketones of the Selenophene Series

SOV/79-23-11-30/55

2-isobutyroselenophene, 3-methyl-2-isobutyroselenophene, and similar selenophenes it became evident that the silicic anhydrides of the saturated ~~mono~~ <sup>poly</sup>valent organic acids are convenient acylation agents of the selenophene nucleus, which is also the case in the synthesis of the ketones with ramified radicals. There are 12 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: September 20, 1957

Card 3/3

YUR'YEV, Yu.K.; MAGDISIYEVA, N.N.; TITOV, V.V.

Chemistry of selenophene. Part 40:  $\beta$ -Diketones of the  
selenophene series. Zhur.ob.khim. 32 no.10:3252-3255  
0 '62. (MIRA 15:11)

(Selenophene)

(Ketones)

YUR'YEV, Yu.K.; MAGDESIYEVA, N.N.; TITOV, V.V.

1,3-Dibenzoyl-1-3-di-(2-selenenoyl)-propane. Met. poluch.  
khim. reak. i prepar. no.6:9-11 '62. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet.

YUR'YEV, Yu.K.; MAGDESIYEVA, N.N.; TITOV, V.V.

Chemistry of selenophene. Part 44: Bis-~~8~~-diketones of the selenophene series. Zhur.ob.khim. 33 no.4:1156-1160 Ap '63. (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Selenophene) (Ketones)

PEN AN; MAGDESIYEVA, N.N.; TITOV, V.V. · YUR'YEV, Yu.K.; PESHKOVA, V.M.

Study of the dissociation of some selenophene-containing  
 $\beta$ -diketones using the potentiometric method. Vest. Mosk. un.  
Ser. 2: Khim. 18 no.3:70-74 My-Je '63. (MIRA 16:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.  
(Ketone) (Potentiometric analysis)



YUR'YEV, Yu.K.; MAGDESIYEVA, N.N.; TITOV, V.V.

Chemistry of selenophene. Part 46: Reaction of  
ω-benzoyl-2-acetoselenophene with hydroxylamine. Zhur.ob.khim.  
33 no.7:2158-2163 J1 '63. (MIRA 16:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(Selenophene) (Hydroxylamine)

YEFIMOV, I.P.; LAGUNOVA, O.D.; MAGDESIYEVA, N.N.; TITOV, V.V.; YUR'YEV, Yu.K.;  
PESHKOVA, V.M.

Determination of the acid dissociation constants of  $\beta$ -diketones  
of the selenophene series. Vest. Mosk. un. Ser. 2: Khim. 18  
no.5:49-53 S-O '63. (MIRA 16:11)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

YUR'YEV, Yu.K.; MAGDESIYEVA, N.N.; TITOV, V.V.

Synthesis of  $\omega$ -(p-nitrobenzoyl)-2-acetoselenophene. Zhur.  
ob. khim. 33 no.8:2577-2578 Ag '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

YUR'YEV, Yu.K.; MAGDESIYEVA, N.N.; TITOV, V.V.

Chemistry of selenophene. Part 5A: Reactions of  $\omega$ -acetyl-2-acetoselenophene and the synthesis of  $\omega$ -(hydroxybenzoyl)-2-acetoselenophene. Zhur. org. khim. 1 no.1:163-167 Ja '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

MAGDESIYEVA, M.N.; TITOV, V.V.; BYSTROV, V.F.; LEZINA, V.P.; YUR'YEV, Yu.K.

Structure of  $\beta$ - and bis- $\beta$ -diketones of the selenophene series.  
Zhur. struk. khim. 6 no.3:402-406 My-Je '65.

(MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova i  
Institut khimicheskoy fiziki AN SSSR.

L 07161-67 EWP(j)/EWT(m) RM

ACC NR: AP6028199

SOURCE CODE: UR/0189/66/000/002/0090/0094

AUTHOR: Yefimov, I. P.; Titov, V. V.; Magdesiyeva, N. N.; Monakhova, A. T.

29  
13

ORG: Analytical Chemistry Department (Kafedra analiticheskoy khimii)

TITLE: Acid-base properties of certain  $\beta$ -diketones of the selenophene series

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 2, 1966, 90-94

TOPIC TAGS: dissociation constant, ketone, organoselenium compound

ABSTRACT: The dissociation constant  $K_{diss}$  of certain  $\beta$ -diketones of the selenophene series containing 2- and 3-selenienyl radicals were determined by potentiometric titration with NaOH in a water-dioxane medium with the use of the equation

$$K_{diss} = \frac{[H^+] \left\{ [NaOH] - [H^+] - \frac{K_{H_2O}}{[H^+]} \right\}}{[HA] - \left\{ [NaOH] + [H^+] - \frac{K_{H_2O}}{[H^+]} \right\}}$$

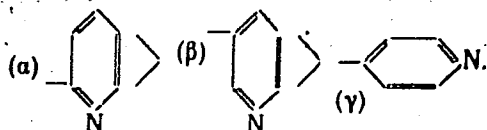
where [HA] is the total concentration of  $\beta$ -diketone. It was found that  $K_{diss}$ , which represents the acid strength of the enol form, depends on the nature of the radicals. For pyridyl-containing  $\beta$ -diketones with a selenienyl radical, the decrease in basic properties occurs in the order

Card, 1/2

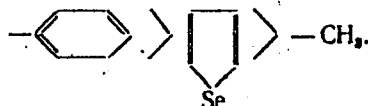
UDC: 543.8

L 07161-67

ACC NR: AP6028199



The introduction of the electron-acceptor  $\text{NO}_2$  group into the aromatic radical decreases the acidity of the  $\beta$ -diketone. For  $\beta$ -diketones with a 3-selenienyl radical, the change in basic properties occurs in the order



The extraction of neodymium with pyridyl-containing diketones of the selenophene series was studied in the  $\text{CHCl}_3\text{-H}_2\text{O}$  system using an  $\text{Nd}^{147}$  radioisotope. The degree of extraction was 90% in all cases. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 07/ SUBM DATE: 27Feb65/ ORIG REF: 005

Card 2/2 m L E

TITOV, V. V., Cand Agr Sci -- (diss) "Pathologico-anatomical differential diagnosis of the chronic form of pasteurellosis, listerellosis, and staphylococcia in rabbits." Kazan', 1958. 15 pp (Kazan' State Vet Inst im N. E. Bauman) (KL, 18-58, 101)



KRUGLOV, V.T., kand. veter. nauk; TITOV, V.V., kand. veter. nauk;  
ZELEPUKIN, V.S., red.; OKOLELOVA, Z.P., tekhn.red.

[Protection of farm animals against radioactive, chemical,  
and bacteriological contamination] Zashchita sel'skokho-  
ziaistvennykh zhivotnykh pri radioaktivnom, khimicheskom i  
bakteriologicheskom zarazhenii. Moskva, Sel'khozizdat,  
1963. 38 p. (MIRA 17:3)

1. TITOV, V. V.
2. USSR (600)
4. Drawing - Instruction
7. Experience in instructing drawing. Mat. v. shkole no. 6: 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

105-6-10/26

AUTHOR TITOV, V.V. Candidate of Technical Sciences and KOGAN, Z. B. Engineer.  
 TITLE Turbogenerator Rotor with Direct Cooling of Windings.  
 (Rotor turbogeneratora s neposredstvennym oklazhdeniyem provodnikov  
 obmotki - Russian)  
 PERIODICAL Elektrichestvo, 1957, Nr 6, pp 35 - 38, (U.S.S.R.)  
 ABSTRACT In the course of preparations made for the production of large 300 MW ge-  
 nerators, a test rotor with direct cooling of windings by means of hydro-  
 gen was produced by the "Elektrosila" plant. In 1956 it was mounted upon  
 a 30 MW turbogenerator and tested while inoperation. The construction of  
 rotor windings, mounting, and operation are described in detail and the  
 following summary of results is given- 1) The method of direct cooling which  
 is used here can be employed also in the case of 200 and 300 MW turbogene-  
 rators. 2) Calculations show that the utilization of material in a turbo-  
 generator with a rotor of new construction and a stator of ordinary const-  
 ruction is, on the average, 60% higher than in the case of highly center-  
 ed machines of the normal series. In this case the operation temperature of  
 the rotor winding does not exceed 80% of the temperature permitted for in-  
 sulation of the rotor in the case of ordinary cooling systems. 3) Th new  
 construction can also be used for turbogenerators with 30....150 MW, which  
 means a 30-35% reduction of weight and dimensions. 4) The production of  
 rotor windings of the new construction is, however, more complicated. 5)  
 The stators of turbogenerators with hydrogen cooling must be pressed off  
 with compressed air. (8 illustrations).

Card 1/2

Turbogenerator Rotor with Direct Cooling of Windings.

105-6-10/26

ASSOCIATION "Elektrosila" Plant and "Lenenergo"  
PRESENTED BY  
SUBMITTED 18.1.1957  
AVAILABLE Library of Congress.  
Card 2/2

Tilov, V.V

Distr: 423a

3  
1

TITOV, V.V.

Construction of physical instruments as a method for lasting retention of knowledge by students. Politskh.obuch.  
no.9:36-38 S '59. (MIRA 12:12)

1. Kirovskiy oblastnoy institut usovershenstvovaniya uchiteley.  
(Physical instruments) (Kirov--Physics--Study and teaching)

TITOV, V.V.

Decrease of the expenditure of materials in designing new equipment.  
Elektrosila no.19:6-9 '60. (MIRA 15:2)

(Electric equipment industry)  
(Electric engineering--Materials)

GORSKIY, Yu.M.; TITOV, V.V.

Semiconductor devices for measuring the speed of a crankshaft and the angle of advance or the angle of fuel injection in internal combustion engines. Avt.prom. 27 no.12:25-27 D '61.  
(MIRA 1:1)

1. Moskovskiy energeticheskiy institut.  
(Electronic instruments) (Diesel engines--Testing)



TITOV, V.V., inzh.

Large turbogenerator units. Elektrichstvo no. 3:1-4 Ag '61.  
(MIRA 14:10)

1. Zavod "Elektrosila" im. Kirov.  
(Turbogenerators)

TITOV, V.V. (Kirov)

Use of the students' practical experience in teaching physics.  
Fiz.v shkole 22 no.1:86-87 Ja-F '62. (MIRA 15:3)  
(Automation)

TITOV, V.V., inzh.

Use of e.m.f. Hall transducers for registering power.

Vest. elektroprom. 33 no.10:68-70 0 '62. (MIRA 15:9)

(Transducers)

(Electric measurements)

DANILEVICH, Yanush Bronislavovich; KASHARSKIY, Engmar Grigor'yevich;  
TITOV, V.V., kand. tekhn. nauk, retsenzent; DARTAU, A.A.,  
kand. tekhn.nauk, red.; ZHITNIKOVA, O.S., tekhn. red.

[Additional losses in electrical machines] Dobavochnye  
poteri v elektricheskikh mashinakh. Moskva, Gosenergoiz-  
dat, 1963. 213 p. (MIRA 16:11)  
(Electric machinery)

ANTONYAN, Aram Isaakovich; SHAKHMATOV, Maksim Anan'yevich;  
TITOV, V.V., kand. tekhn. nauk, retsenzent; KLEYMAN,  
L.I., inzh., red.; ZHITHIKOVA, O.S., tekhn. red.

[Installation of hydrogen-cooled turbogenerators] Montazh  
turbogeneratorov s vodorodnym okhlazhdeniem. Moskva, Gos-  
energoizdat, 1963. 207 p. (MIRA 17:3)

ETTINGER, Ye.L., kand.tekhn.nauk; GLUKH, Ye.M., kand.tekhn.nauk;  
GOL'DIN, R.G., inzh.; TITOV, V.V., kand.tekhn.nauk; NEYMAN, Z.B.,  
inzh.

Concerning L.V.Rosman's article. Vest. elektroprom. 34 no.1:  
62-64 Ja '63. (MIRA 16:1)  
(Electric generators) (Rosman, L.V.)

AUTHOR: Gusev, V. M.; Litov, V. V.; Guseva, M. I.; Kurinyy, V. I.

TITLE: Thermal emf in a quantizing field in semiconductors with multiellipsoid energy surfaces

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2077-2081

TOPIC TAGS: transverse thermal emf, thermal emf, semiconductor, conduction band

ABSTRACT: Obrastsov's formula relating entropy to transverse thermal emf in a semiconductor with a simple conduction band placed in a quantizing magnetic field (Yu. N. Obrastsov, FTI, 7, 4, 573, 1965) is extended to encompass semiconductors with ellipsoidal energy surfaces. Although the method can be used in investigating a degenerate electron gas, the present calculations are restricted to the non-degenerate case, when results are applicable as can be applied to conduction band

are given of the application of the formula to the case of

has: 36 formulas.

Card 1/2

1

L-57861-65

ACCESSION NR: AP5017301

ASSOCIATION: none

SUBMITTED: 25Jan65

ENCL: 00

SUB CODE: SS,EM

NO REF SOV: 002

OTHER: 006

ATD PRESS: 4044

7/2 ke  
0-3 010



L 34819-66 FWT(1)/FMT(m)/T/ENP(t)/EPI IJP(c) JD/AT

ACC NR: AP6018530

SOURCE CODE: UR/0181/66/008/006/1708/1712

AUTHOR: Gusev, V. M.; Zadde, V. V.; Landsman, A. P.; Titov, V. V.

ORG: none

TITLE: Investigation of certain characteristics of photoconverters with p-n junctions produced by ion bombardment

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1708-1712

TOPIC TAGS: photoconductive cell, pn junction, silicon, ion bombardment, volt ampere characteristic, spectral energy distribution

ABSTRACT: This is a continuation of earlier work by the authors (FTT v. 7, 2077, 1965), where a procedure was developed of producing silicon photoconverters by producing inside the silicon a p-n junction resulting from bombarding silicon with 30-keV phosphorus ions. The present paper describes the results of further studies of the characteristics of such converters. The experiments were carried out with p-type silicon of resistivity 4 ohm-cm and initial minority carrier lifetime 10—50  $\mu$ sec, using the same apparatus as before. The irradiation dose ranged from 1 to  $10^5$   $\mu$ Coul/cm<sup>2</sup>, and the current density from 1 to 100  $\mu$ A/cm<sup>2</sup>. The bombarding phosphorus ion energy was ~30 keV. It was found that the minimum dose required for the formation of the p-n junction was about  $10^2$   $\mu$ Coul/cm<sup>2</sup>. Annealing the crystal (at 500 and 600C) after bombardment makes it possible to produce the junction with smaller dose (but still above the threshold). The depth of the junction ranges from 0.75 to 1.1  $\mu$ .

Cord 1/2

L 34819-66

ACC NR: AP6018530

which is 15 — 20 times farther than the depth of penetration of the bombarding phosphorus ions. Photoconverters of this type have an efficiency of 6—8%, with a maximum sensitivity 800 — 900 nm and a strongly drooping volt-ampere characteristic. P. P. Borisov and V. P. Solov'yev took part in the work. The authors thank T. M. Golovner and V. Ya. Koval'skiy for measuring the spectral and load characteristics. Orig. art. has: 6 figures and 2 formulas. [02]

SUB CODE: 20/ SUBM DATE: 21Oct65/ ORIG REF: 006/ OTH REF: 008  
ATD PRESS: 603/

Card

2/2

L 29932-66 EWT(1)/EWT(m)/T/EWP(e)/EWP(+)/ETI IIP(c) AT/VH/ID  
 ACC NR: AP6018580 SOURCE CODE: UR/0181/66/008/06/1964/1965

AUTHOR: Vavilov, V. S.; Guseva, M. I.; Konorova, Ye. A.; Krasnopevtsev, V. V.;  
 Sergiyenko, V. F.; Titov, V. V.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut  
 AN SSSR)

TITLE: Semiconductor diamonds<sup>2/</sup> obtained by ion bombardment<sup>2/</sup>

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1964-1965

TOPIC TAGS: semiconductor alloy, semiconductor crystal, semiconductor conductivity,  
 diamond

ABSTRACT: An investigation was made of the dependence of electric conductivity on the temperature and concentration of the impurities introduced into a layer of diamond doped with lithium and boron by ion bombardment. Diamond doping was carried out in an ion-ray installation with a magnetic separation at a focusing angle of 180°. Lithium and boron ions with an energy of 40 keV were introduced into the natural face of the crystal or into the cleavage plane perpendicularly to the crystallographic directions [111] and [100]. The activation energy for lithium was  $(0.29 \pm 0.01)$  eV and for boron  $(0.25 \pm 0.01)$  eV. Lithium-doped diamond has an electron-type conductivity, while in boron-alloyed diamond the holes are the major charge carriers. Annealing of specimens at 600°C for three hours in an argon atmosphere had virtually no effect on the activa-

Cord 1/2

L 29932-66

ACC NR: AP6018580

tion energy of electric conductivity; the general resistance of the doped layer increased somewhat only in the case of boron. The acceptor and donor levels appearing in the forbidden band as the result of radiative defects are deep and have only a slight effect on the activation energy. With an increasing concentration of lithium, the activation energy decreases in the range of high temperatures as well as in the range of lower temperatures. These rules apply to the impurity band, in which the concentration of lithium is about  $10^{20} \text{ cm}^{-3}$ . Ion bombardment makes it possible to obtain semiconducting layers of diamond whose electric conductivity can change by 5 to 10 orders, depending on the extent of doping. The energy level corresponding to the lithium admixture is separated by 0.29 eV from the bottom of the conductivity band, while the energy level of boron is 0.25 eV from the top of the valence band. The authors thank V. M. Gusev for collaboration in the work, V. A. Mizonova and N. A. Shuvalova for the preparation of specimens, Yu. Ye. Andreyev for participation in the measurements, and S. A. Shevchenko for supplying a device for determining the sign for the Hall coefficient. Orig. art. has: 2 figures and 1 table. [JA]

SUB CODE: 20/ SUBM DATE: 08Jan66/ OTH REF: 004/ ATD PRESS: 5011

Card 2/2 CC

TITCV, Vladimir Vasil'yevich; NIKULIN, S.M., red.

[Trigger-type measuring devices] Izmeritel'nye spuskovye  
ustroistva. Moskva, Izd-vo "Energia," 1964. 31 p. (Mas-  
sovaia radiobiblioteka, no.527) (MIRA 17:6)

TITOV, V.Ya.

What would a signaling and communications district be like? Avtom.,  
telem. i svyaz' 4 no.10:20-21 O '60. (MIRA 13:10)

1. Nachal'nik sluzhby signalizatsii i svyazi Moldavskoy dorogi.  
(Railroads--Signaling)

TITOV, V.Ye., inzh.-podpolkovnik; CHUGASOV, A.A., podpolkovnik, red.;  
BUKOVSKAYA, N.A., tekhn.red.

[Methods and means for degasification, deactivation, and  
disinfection] Spособы i sredstva degazatsii, dezaktivatsii i  
dezinfektsii. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 37 p.  
(MIRA 14:4)  
(DECONTAMINATION (FROM GASES, CHEMICALS, ETC.))

LUK'YANENKO, Viktor Grigor'yevich; OSVYATINSKIY, Valentin Nikolayevich;  
SOKOVA, Mariya Ivanovna; TITOV, Vladimir Yevgen'yevich; NOVIK,  
A.M., red.; MATUSEVICH, S.M., tekhn. red.

[Comparative tables for antifriction bearings] Sravnitel'nye  
tablitsy podshipnikov kachenii. Kiev, Gostekhzdat USSR,  
1962. 146 p. (MIRA 15:7)  
(Bearings (Machinery))--Tables, calculations, etc.)



TITOV, Ya., brigadir avtobusnoy brigady 1-go avtobusnogo parka goroda  
Moskvy, laureat Stalinskoy premii; LARINA, L., redaktor; MALEK, Z.,  
tekhnicheskiiy redaktor.

[From Moscow to Rublevo] Ot Moskvy do Rubleva. [Moskva] Izd-vo  
VTsSPS Profizdat, 1952. 57 p. [Microfilm] (MLBA 7:10)  
(Motor bus drivers)

TITOV, Ye.A.; BURMISTROV, S.I.; SERAYA, V.I.

Arenesulfonic esters of quinone dioximes. Zhur.ob.khim. 32  
no.7:2298-2302 JL '62. (MIRA 15:7)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Benzoquinone) (Sulfonic acids)

Титов, Ye. A.

Acad. Sci. USSR  
Div. 4, No. 5  
Apr. 10, 1954  
Organic Chemistry

N-Arylsulfonamides. Impres. S. I. Burmistrov and  
E. A. Titov (Ivanovo Inst. Chem. Technol.). J. Gen.  
Chem. U.S.S.R. 22, 1053-7(1952)(Engl. translation).—  
See C.A. 47, 7468d. H. L. H.

MF  
7-28-54

1ST AND 2ND CODERS																										3RD AND 4TH CODERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p><b>Refining Magnesium with Fluxes. V. Y. Tjiov (<i>Legkie Metally</i> (<i>Light Metals</i>), 1968, (12), 20-34). [In Russian.] A description of refining processes used in Germany and the U.S.A.—D. N. 8.</b></p>																																																			
<p>458.55.4 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

ТИТОВ, Я. И.

Inspection Commission Elected at 11th All-Union Trade Union Congress.  
(Trud, June 16, '54. p. 2)

SO: Current Digest of Soviet Press, Vol. 6, #24, 28 July '54 Uncl

RUBETS, D.A.; TITOV, Ya.I.; PAPEL', S.V., redaktor; PETROVSKAYA, Ye.  
tekhnicheskiiy redaktor.

[Saving gasoline in the operation of an automobile] Ekonomiia  
benzina pri rabote na avtomobile. Moskva, Izd-vo Ministerstva  
Komunal'nogo khoziaistva RSFSR, 1951, 31 p. (MLRA 8:9)

1. Starshiy nauchniy sotrudnik TsNIIAT (for Rubets). 2. Shofer-  
stakhanovets 1-go Moskovskogo avtobusnogo parka (for Titov).  
(Automobiles--Fuel consumption)

71108, Ya I.  
ANDREYEV, P.S., inzhener; ZARUBIN, I.N., shofer; IVANOV, I.V., shofer;  
TITOV, Ya.I., laureat Stalinskoy premii; STEPANOVA, Ye.A., inzhe-  
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TITOV, Yo.A.; SERAYA, V.I.

Esters of quinone dioximes with carboxylic acids. Zhur. o. Khim.  
34, no.10:3372-3374 O '64. (MIRA 77:11)

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Investigation of the alkaline method of colophony extraction. I. YA. POSTOVSKII  
AND R. M. TITOV. *J. Chem. Ind. (Russia)* 6, 82 (1920). Three kg. of resinous  
wood of the *Tal* region cut into plates 10 cm. long, 0.3 cm. thick, was placed in an Fe

still of 30 l. capacity, 18-20 l. of  $H_2O$  was added so as completely to cover the wood,  
then 300 g. of soda was introduced and the whole was boiled. During the ebullition  
 $H_2O$  was added to maintain const. the alkali concn. Turpentine to the amt. of 3.75%  
of the wt. of the wood was carried away with  $H_2O$  vapors. When  $H_2O$  alone is used  
(i. e., without the addn. of alkali) only 1.47% turpentine is obtained, the quality being  
about the same. The resin acids combined with the alkali and formed a dark brown  
soln, which was poured off the wood and acidified with dil.  $H_2SO_4$ . A dark gray ppt  
of free resin was formed which after some time rose to the surface and was taken out  
and washed. On being melted the resin represented a black mass contg. hard inclusions.  
The yield of resin was 10-17% of the wood taken. The black coloration is partly due  
to the presence of lignin and other substances derived from the attack of wood by alkali.  
These impurities can be extd. in an app. described by P. and T. and the resin left behind  
is a transparent resin D with a dark red fluorescence which contains, besides abietic  
acid, some oxidation products. Expts. made in pptg. the alk. resin soln. by  $HCl$  or  
with  $CO_2$ , with or without pressure, always gave dark colophony. It is feasible, how-  
ever, to obtain yellowish extd. resin by avoiding the oxidation of abietic acid during  
the operation. This is accomplished by covering the resinous wood with  $CaH_2$  in a  
tightly closed vessel in which air has been replaced by  $N_2$  and agitating 4 hrs. After 2  
days the  $CaH_2$  soln. is filtered and evapd. *in vacuo* at ordinary temp. and the residue  
of colophony obtained is very light. Resin oxides are themselves colorless, but deg.  
radiation of oxidation products produces colophenic acids (Aschan, C. I. 15, 3907)  
and these are largely responsible for the dark coloration of extn. resins. B. N.

ADD-55-A DETAILING LITERATURE CLASSIFICATION

[illegible]

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										MATERIALS INDEX																									
<p>5747. DETERMINATION OF CARBON AND HYDROGEN IN FUEL BY SEMI-MICROMETHOD. Titov, E. M. (Zavodskaya Lab., (Factory Lab.,) 1947, vol. 13, 308-314; abstr. in Chem. Abstr., 10th May 1948, vol. 42, 3154). The semi-micromethod of determining carbon and hydrogen in organic compounds was used for coal, peat and charcoal. In this procedure, the carbon dioxide is absorbed in ascarite while a mixture of ground <math>\text{CuO}</math> <math>\text{PbCrO}_4</math> (1:1) is used to absorb oxides of sulphur. In addition, a copper rod is placed in the combustion tube near the absorption units so that the narrower end of the tube fits almost completely into the glass tube of the first absorber containing calcium chloride. This eliminates the formation of condensate in the end of the combustion tube or in the glass tube of the first absorber. In analyzing materials containing sulphur, the combustion must be conducted with a stream of oxygen. Error in hydrogen determination did not exceed 0.1%. Combustion of peat requires 30 min. and coal 46 min. Analysis requires only one fifth to a quarter of the time needed for a macrodetermination. C.A.</p>																																																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
<p><b>B</b></p> <p style="text-align: right;"><b>26</b></p> <p><b>*872. Chromatographic Adsorption Analysis Under Increased Pressure.</b> (In Russian.) E. M. Tilov. <i>Zavodskaya Laboratoriya</i> (Factory Laboratory), v. 13, Nov. 1947, p. 1359-1364.</p> <p>Describes new technique and apparatus utilizing a pressure of 250-300 mm. above atmospheric instead of the usual vacuum. 14 ref.</p>																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>REGIONAL DIVISION</p>										<p>REGIONAL DIVISION</p>									
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<p>SECTION 3</p>										<p>SECTION 4</p>									